

Work Order ID 108619

108619

Page 1

October-24-13 1:32:50 PM

Item ID: 649.5111

Accept

N900040100

Setup Start *NS1*

Revision ID:

Stop *NS2*

Item Name: LH Wiper Deflector

Start Date: 10/24/13 Start Qty: 5.00 *5*

Cust Item ID:

Required Date: 11/07/13 Req'd Qty: 5.00 *5*

Customer:

Reference:

Approvals: Process Plan: MLJ Date: 13-10-24 Tooling:

Date:

Run Start *NR1*

QC: Date: SPC (Y/N):

Date:

Stop *NR2*

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
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Draw Nbr: Revision Nbr

~~646.4700~~ 649, 5100

100

DF 8/13/10/25

0.00

100

Bandsaw

Memo

0.00

Jeaspa Bandsaw

CUT AT 7.375" LONG

OK 13/11/20

5

110

0.00

110

Outsource5

Memo

0.00

Outsource process - Machining

ISSUE P/O:
POSSIBLE SUPPLIER: ARCHER PRECISION

Certificate of conformaty required

see Next pg.

115

Receive & Inspect for Damage & Mat'l Certs

0.00

115

Packaging

Memo

0.00

Packaging

5x

14-2-4

DAS
26
9-89

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework <input type="checkbox"/> Scrap <input type="checkbox"/> Use-as-is <input type="checkbox"/> Suspected Unapproved <input type="checkbox"/>	AGAINST DEPARTMENT/PROCESS <table style="width: 100%;"> <tr> <td>Skid-tube <input type="checkbox"/></td> <td>Crosstube <input type="checkbox"/></td> <td>Water Jet <input type="checkbox"/></td> <td>Engineering <input type="checkbox"/></td> </tr> <tr> <td>Machining <input type="checkbox"/></td> <td>Small Fab <input type="checkbox"/></td> <td>Prod. Eng. Coord. <input type="checkbox"/></td> <td>Quality <input type="checkbox"/></td> </tr> <tr> <td>Thermoforming <input type="checkbox"/></td> <td>Finishing <input type="checkbox"/></td> <td>Rec/Store/Packaging <input type="checkbox"/></td> <td>Other <input type="checkbox"/></td> </tr> <tr> <td>Large Fab <input type="checkbox"/></td> <td>Composite <input type="checkbox"/></td> <td>Supplier <input type="checkbox"/></td> <td></td> </tr> </table>	Skid-tube <input type="checkbox"/>	Crosstube <input type="checkbox"/>	Water Jet <input type="checkbox"/>	Engineering <input type="checkbox"/>	Machining <input type="checkbox"/>	Small Fab <input type="checkbox"/>	Prod. Eng. Coord. <input type="checkbox"/>	Quality <input type="checkbox"/>	Thermoforming <input type="checkbox"/>	Finishing <input type="checkbox"/>	Rec/Store/Packaging <input type="checkbox"/>	Other <input type="checkbox"/>	Large Fab <input type="checkbox"/>	Composite <input type="checkbox"/>	Supplier <input type="checkbox"/>	
Skid-tube <input type="checkbox"/>	Crosstube <input type="checkbox"/>	Water Jet <input type="checkbox"/>	Engineering <input type="checkbox"/>															
Machining <input type="checkbox"/>	Small Fab <input type="checkbox"/>	Prod. Eng. Coord. <input type="checkbox"/>	Quality <input type="checkbox"/>															
Thermoforming <input type="checkbox"/>	Finishing <input type="checkbox"/>	Rec/Store/Packaging <input type="checkbox"/>	Other <input type="checkbox"/>															
Large Fab <input type="checkbox"/>	Composite <input type="checkbox"/>	Supplier <input type="checkbox"/>																

Root Cause	Date	Step	Qty	Description of work order update or non-conformance	Initial Chief Eng	Action Description	Sign & Date	Verification	QC Inspector
Design									
Doc/Data									
Equip/Tooling									
Handling/Pre									
Material									
Operator									
Offset/Setup									
Process									
Supplier									
Training									
Transport									
Unapproved									

FAULT CATEGORY

Landing Gear <input type="checkbox"/> Bending <input type="checkbox"/> Centre Not Concentric <input type="checkbox"/> Cracks <input type="checkbox"/> Crimp/Kink/Ripple/Wave <input type="checkbox"/> Cuffs <input type="checkbox"/> Crushing <input type="checkbox"/> Heat Treat <input type="checkbox"/> Inspection Strip in Tube <input type="checkbox"/> Marks/Chatter <input type="checkbox"/> Turning Sequence <input type="checkbox"/> Wave/Twist in Tube	General <input type="checkbox"/> Bend <input type="checkbox"/> BOM/Route <input type="checkbox"/> Broken/Damage/Defect <input type="checkbox"/> Burrs <input type="checkbox"/> Contamination <input type="checkbox"/> Countersink <input type="checkbox"/> Cut Too Short <input type="checkbox"/> Drawing <input type="checkbox"/> Drill Holes <input type="checkbox"/> Finish <input type="checkbox"/> Fit/Function	<input type="checkbox"/> Folio/Program <input type="checkbox"/> Grain <input type="checkbox"/> Hardware <input type="checkbox"/> Inspection Incomplete/Unqualified <input type="checkbox"/> Instructions Incomplete/Unclear <input type="checkbox"/> Misaligned/off center <input type="checkbox"/> Mislabeled <input type="checkbox"/> Misread <input type="checkbox"/> Off-set <input type="checkbox"/> Out of Calibration <input type="checkbox"/> Out of Sequence	<input type="checkbox"/> Outside Dimensions <input type="checkbox"/> Over/Under tolerance <input type="checkbox"/> Part Incorrect <input type="checkbox"/> Part Lost/Missing <input type="checkbox"/> Part Moved <input type="checkbox"/> Positioned Wrong <input type="checkbox"/> Power Loss/Surge <input type="checkbox"/> Pressure/Forced <input type="checkbox"/> Set-up <input type="checkbox"/> Temperature/Cure <input type="checkbox"/> Weld <input type="checkbox"/> Wrong Stock Pulled <input type="checkbox"/> Other
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108619

November-25-13 10:32:55 AM

N900040100

Setup Start *NS1*

Stop *NS2*

Cust Item ID:

Start Date: 10/24/13 **Start Qty:** 5.00 ***5***

Customer:

Required Date: 11/07/13 **Req'd Qty:** 5.00 ***5***

Reference:

Run Start *NR1*

Approvals: **Process Plan:** **Date:** _____ **Tooling:** _____ **Date:** _____

Stop *NR2*

QC:	Date:	SPC (Y/N):	Date:
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Draw Nbr	Revision Nbr
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649.5100 A

0.00

0.00

0.00

0.00

100

100

Bandsaw

Jeaspa Bandsaw

Memo

CUT AT 7.375" LONG

110

110

Outsource5

Outsource process - Machining

Memo

ISSUE P/O: 22172
POSSIBLE SUPPLIER: ETM

1-MANUFACTURE AS PER DWG

2- Black Anodize as per Dwg 647.960

Certificate of conformaty required

Work Order ID 108619

108619

Page 2

November-25-13 10:32:56 AM

Item ID: 649.5111

Accept

N900040100

Setup Start *NS1*

Revision ID:

Stop *NS2*

Item Name: LH Wiper Deflector

Start Date: 10/24/13 Start Qty: 5.00 *5*

Cust Item ID:

Required Date: 11/07/13 Req'd Qty: 5.00 *5*

Customer:

Reference:

Approvals: Process Plan: Date: Tooling: Date:

Run Start *NR1*

QC: Date: SPC (Y/N): Date:

Stop *NR2*

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
115	Receive & Inspect for Damage & Mat'l Certs	0.00							
115									
Packaging	Memo	0.00				5X		14-2-4	DAS 26 9-89
Packaging									
117	QC6- Inspect dimensions to drawing	0.00							
117									
QC	Memo	0.00						14-02-05	DAS 9 9-89
Quality Control									
118		0.00							
118									
HandFinish	Memo	0.00							
Hand Finishing	REMOVE ALL PART MARKINGS								

Work Order ID 108619

108619

Page 3

November-25-13 10:32:56 AM

Item ID: 649.5111

Accept

N900040100

Setup Start *NS1*

Revision ID:

Stop *NS2*

Item Name: LH Wiper Deflector

Start Date: 10/24/13 Start Qty: 5.00

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Cust Item ID:

Required Date: 11/07/13 Req'd Qty: 5.00

5

Customer:

Reference:

Approvals:

Process Plan:

Date:

Tooling:

Date:

Run Start *NR1*

QC:

Date:

SPC (Y/N):

Date:

Stop *NR2*

Sequence ID/
Work Center ID

Operation
Description

Set Up/
Run Hours

Tool ID

Tool #

Plan
Code

Accept
Qty

Reject
Qty

Reject
Number

Insp.
Stamp

125

125

SprayPaint

Memo

0.00

Spray Painting

PRIME AS PER DWG, SEE NOTE #2

5

CB 14/04/27

135

135

QC

QC14- Inspect Spray Paint

Memo

0.00

Quality Control

5

14-02-28

170

170

Packaging

Identify as per dwg & Stock Location: ST419

Memo

0.00

Packaging

IDENTIFY AS PER APICAL MPP-120 BY STAMPING P# AND REV

5x

DAS
28
9-89

14-03-3

Work Order ID 108619

108619

Page 4

November-25-13 10:32:56 AM

Item ID: 649.5111

Accept

N900040100

Setup Start *NS1*

Revision ID:

Stop *NS2*

Item Name: LH Wiper Deflector

Start Date: 10/24/13 Start Qty: 5.00

5

Cust Item ID:

Required Date: 11/07/13 Req'd Qty: 5.00

5

Customer:

Reference:

Approvals:

Process Plan:

Date:

Tooling:

Date:

Run Start *NR1*

QC:

Date:

SPC (Y/N):

Date:

Stop *NR2*

Sequence ID/
Work Center ID

Operation
Description

Set Up/
Run Hours

Tool ID

Tool #

Plan
Code

Accept
Qty

Reject
Qty

Reject
Number

Insp.
Stamp

190

QC21- Final Inspection - Work Order Release

0.00

190

QC

Memo

0.00

Quality Control

PL 14-03-3

MCS 14-03-03

Picklist Print

November-25-13 10:32:55 AM

Page 1

Work Order ID: 108619
Parent Item: 649.5111
Parent Item Name: LH Wiper Deflector

Start Date: 10/24/13 Required Date: 11/07/13
Start Qty: 5.00 Required Qty: 5.00

Comments: IPP REV:A NEW ISSUE 13-10-23 JLM VERIFIED BY:DD

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
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M7075T6B6.000X6.000

Purchased

No

50.1700

5

7075-T6 BAR 6.000' X 6.000" (order in billets)

BLANK CUT AT 7.375" LONG

Location

Loc Qty

Loc Code

MAT

50.17

m126981

24.17

m127539

26

3.0729

CL13/11/28

Picklist Print

October-24-13 1:32:55 PM

Page 1

Work Order ID: 108619

108619

Parent Item: 649.5111

649 5111

Parent Item Name: LH Wiper Deflector

Start Date: 10/24/13

Required Date: 11/07/13

Start Qty: 5.00

Required Qty: 5.00

Comments: IPP REV:A NEW ISSUE 13-10-23 JLM VERIFIED BY:DD

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
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M7075T6B6.000X6.000

Purchased

No

f

31.6530

5

M7075T6B6 000X6 000

7075-T6 BAR 6.000" X 6.000" (order in billets)

Location

Loc Qty

Loc Code

MAT

31.653

m126133

7.483

m126981

24.17

BLANK CUT AT 7.375" LONG

M127539 X 5 OK 13/11/20

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework <input type="checkbox"/> Scrap <input type="checkbox"/> Use-as-is <input type="checkbox"/> Suspected Unapproved <input type="checkbox"/>	AGAINST DEPARTMENT/PROCESS <table style="width:100%; border: none;"> <tr> <td style="width:33%;"> Skid-tube <input type="checkbox"/> Machining <input type="checkbox"/> Thermoforming <input type="checkbox"/> Large Fab <input type="checkbox"/> </td> <td style="width:33%;"> Crosstube <input type="checkbox"/> Small Fab <input type="checkbox"/> Finishing <input type="checkbox"/> Composite <input type="checkbox"/> </td> <td style="width:33%;"> Water Jet <input type="checkbox"/> Prod. Eng. Coord. <input type="checkbox"/> Rec/Store/Packaging <input type="checkbox"/> Supplier <input type="checkbox"/> </td> <td style="width:33%;"> Engineering <input type="checkbox"/> Quality <input type="checkbox"/> Other <input type="checkbox"/> </td> </tr> </table>	Skid-tube <input type="checkbox"/> Machining <input type="checkbox"/> Thermoforming <input type="checkbox"/> Large Fab <input type="checkbox"/>	Crosstube <input type="checkbox"/> Small Fab <input type="checkbox"/> Finishing <input type="checkbox"/> Composite <input type="checkbox"/>	Water Jet <input type="checkbox"/> Prod. Eng. Coord. <input type="checkbox"/> Rec/Store/Packaging <input type="checkbox"/> Supplier <input type="checkbox"/>	Engineering <input type="checkbox"/> Quality <input type="checkbox"/> Other <input type="checkbox"/>
Skid-tube <input type="checkbox"/> Machining <input type="checkbox"/> Thermoforming <input type="checkbox"/> Large Fab <input type="checkbox"/>	Crosstube <input type="checkbox"/> Small Fab <input type="checkbox"/> Finishing <input type="checkbox"/> Composite <input type="checkbox"/>	Water Jet <input type="checkbox"/> Prod. Eng. Coord. <input type="checkbox"/> Rec/Store/Packaging <input type="checkbox"/> Supplier <input type="checkbox"/>	Engineering <input type="checkbox"/> Quality <input type="checkbox"/> Other <input type="checkbox"/>			

Root Cause	Date	Step	Qty	Description of work order update or non-conformance	Initial Chief Eng	Action Description	Sign & Date	Verification	QC Inspector
Design									
Doc/Data									
Equip/Tooling									
Handling/Pre									
Material									
Operator									
Offset/Setup									
Process									
Supplier									
Training									
Transport									
Unapproved									

FAULT CATEGORY

Landing Gear <input type="checkbox"/> Bending <input type="checkbox"/> Centre Not Concentric <input type="checkbox"/> Cracks <input type="checkbox"/> Crimp/Kink/Ripple/Wave <input type="checkbox"/> Cuffs <input type="checkbox"/> Crushing <input type="checkbox"/> Heat Treat <input type="checkbox"/> Inspection Strip in Tube <input type="checkbox"/> Marks/Chatter <input type="checkbox"/> Turning Sequence <input type="checkbox"/> Wave/Twist in Tube	General <input type="checkbox"/> Bend <input type="checkbox"/> BOM/Route <input type="checkbox"/> Broken/Damage/Defect <input type="checkbox"/> Burrs <input type="checkbox"/> Contamination <input type="checkbox"/> Countersink <input type="checkbox"/> Cut Too Short <input type="checkbox"/> Drawing <input type="checkbox"/> Drill Holes <input type="checkbox"/> Finish <input type="checkbox"/> Fit/Function	<input type="checkbox"/> Folio/Program <input type="checkbox"/> Grain <input type="checkbox"/> Hardware <input type="checkbox"/> Inspection Incomplete/Unqualified <input type="checkbox"/> Instructions Incomplete/Unclear <input type="checkbox"/> Misaligned/off center <input type="checkbox"/> Mislabeled <input type="checkbox"/> Misread <input type="checkbox"/> Off-set <input type="checkbox"/> Out of Calibration <input type="checkbox"/> Out of Sequence	<input type="checkbox"/> Outside Dimensions <input type="checkbox"/> Over/Under tolerance <input type="checkbox"/> Part Incorrect <input type="checkbox"/> Part Lost/Missing <input type="checkbox"/> Part Moved <input type="checkbox"/> Positioned Wrong <input type="checkbox"/> Power Loss/Surge <input type="checkbox"/> Pressure/Forced <input type="checkbox"/> Set-up <input type="checkbox"/> Temperature/Cure <input type="checkbox"/> Weld <input type="checkbox"/> Wrong Stock Pulled <input type="checkbox"/> Other
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APICAL INDUSTRIES, INC.	ENGINEERING CHANGE NOTICE NO. 03525				SHEET 1 OF 2	
	DWG NO. 649.5100	REV: A	PREPARED BY A. QUAN	DATE: 05/24/12	EFFECT ON DWG <input type="checkbox"/> INC. <input checked="" type="checkbox"/> UNINC.	
	DWG TITLE: WIPER DEFLECTORS					
APPROVED BY: ENGR <i>[Signature]</i>		MFG <i>[Signature]</i>	QC <i>[Signature]</i>	EFFECT NEXT ORDER		
TRANSACTION CODES (TC): A-ADD C-CREATE R-REVISE D-DELETE		REASON: REVISED PART DIMENSIONS, ADDED RADIUS				

SHEET 1, ZONE A1 IS:

NOTES

- 1 MATERIAL ALUMINUM 7075-7651 PER AMS-QQ-A-250/12.
- 2 FINISH: ANODIZE PER MIL STD-A-8625, TYPE III, CLASS 2, COLOR BLACK.
PRETREAT PROC-DESOTO PR-148 ADHESION PROMOTER,
PRIME IAW MIL-P-23377J TYPE I CLASS M
- 3 PART CONTROLLED BY CAD MODEL
FILE NAME: 6495110 WIPER DEFLECTOR.SLDPRD, LAST MODIFIED 12/07/11
- 4 PART CONTROLLED BY CAD MODEL
FILE NAME: 6495111 WIPER DEFLECTOR.SLDPRD, LAST MODIFIED 04/11/12
- 5 PART CONTROLLED BY CAD MODEL
FILE NAME: 6495112 WIPER DEFLECTOR.SLDPRD, LAST MODIFIED 05/24/12.
- 6 DEBURR AND BREAK ALL SHARP EDGES.
- 7 IDENTIFY IAW MPP-120. LASER ETCH P/N REVISION, 12 PT. CENTURY GOTHIC

108619 MLC
13-10-2y

IS

DOCUMENTS EFFECTED:	<input type="checkbox"/> MDL <input type="checkbox"/> INSTALL INSTRU <input type="checkbox"/> ICA <input type="checkbox"/> BOM	CHANGE CATEGORY <input type="checkbox"/> MAJOR <input checked="" type="checkbox"/> MINOR	DER REVIEW REQUIRED <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO
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DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework <input type="checkbox"/> Scrap <input type="checkbox"/> Use-as-is <input type="checkbox"/> Suspected Unapproved <input type="checkbox"/>	AGAINST DEPARTMENT/PROCESS <table style="width:100%;"> <tr> <td>Skid-tube <input type="checkbox"/></td> <td>Crosstube <input type="checkbox"/></td> <td>Water Jet <input type="checkbox"/></td> <td>Engineering <input type="checkbox"/></td> </tr> <tr> <td>Machining <input type="checkbox"/></td> <td>Small Fab <input type="checkbox"/></td> <td>Prod. Eng. Coord. <input type="checkbox"/></td> <td>Quality <input type="checkbox"/></td> </tr> <tr> <td>Thermoforming <input type="checkbox"/></td> <td>Finishing <input type="checkbox"/></td> <td>Rec/Store/Packaging <input type="checkbox"/></td> <td>Other <input type="checkbox"/></td> </tr> <tr> <td>Large Fab <input type="checkbox"/></td> <td>Composite <input type="checkbox"/></td> <td>Supplier <input type="checkbox"/></td> <td></td> </tr> </table>	Skid-tube <input type="checkbox"/>	Crosstube <input type="checkbox"/>	Water Jet <input type="checkbox"/>	Engineering <input type="checkbox"/>	Machining <input type="checkbox"/>	Small Fab <input type="checkbox"/>	Prod. Eng. Coord. <input type="checkbox"/>	Quality <input type="checkbox"/>	Thermoforming <input type="checkbox"/>	Finishing <input type="checkbox"/>	Rec/Store/Packaging <input type="checkbox"/>	Other <input type="checkbox"/>	Large Fab <input type="checkbox"/>	Composite <input type="checkbox"/>	Supplier <input type="checkbox"/>	
Skid-tube <input type="checkbox"/>	Crosstube <input type="checkbox"/>	Water Jet <input type="checkbox"/>	Engineering <input type="checkbox"/>															
Machining <input type="checkbox"/>	Small Fab <input type="checkbox"/>	Prod. Eng. Coord. <input type="checkbox"/>	Quality <input type="checkbox"/>															
Thermoforming <input type="checkbox"/>	Finishing <input type="checkbox"/>	Rec/Store/Packaging <input type="checkbox"/>	Other <input type="checkbox"/>															
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Root Cause	Date	Step	Qty	Description of work order update or non-conformance	Initial Chief Eng	Action Description	Sign & Date	Verification	QC Inspector
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Doc/Data									
Equip/Tooling									
Handling/Pre									
Material									
Operator									
Offset/Setup									
Process									
Supplier									
Training									
Transport									
Unapproved									

FAULT CATEGORY

Landing Gear <input type="checkbox"/> Bending <input type="checkbox"/> Centre Not Concentric <input type="checkbox"/> Cracks <input type="checkbox"/> Crimp/Kink/Ripple/Wave <input type="checkbox"/> Cuffs <input type="checkbox"/> Crushing <input type="checkbox"/> Heat Treat <input type="checkbox"/> Inspection Strip in Tube <input type="checkbox"/> Marks/Chatter <input type="checkbox"/> Turning Sequence <input type="checkbox"/> Wave/Twist in Tube	General <input type="checkbox"/> Bend <input type="checkbox"/> BOM/Route <input type="checkbox"/> Broken/Damage/Defect <input type="checkbox"/> Burrs <input type="checkbox"/> Contamination <input type="checkbox"/> Countersink <input type="checkbox"/> Cut Too Short <input type="checkbox"/> Drawing <input type="checkbox"/> Drill Holes <input type="checkbox"/> Finish <input type="checkbox"/> Fit/Function	<input type="checkbox"/> Folio/Program <input type="checkbox"/> Grain <input type="checkbox"/> Hardware <input type="checkbox"/> Inspection Incomplete/Unqualified <input type="checkbox"/> Instructions Incomplete/Unclear <input type="checkbox"/> Misaligned/off center <input type="checkbox"/> Mislabeled <input type="checkbox"/> Misread <input type="checkbox"/> Off-set <input type="checkbox"/> Out of Calibration <input type="checkbox"/> Out of Sequence	<input type="checkbox"/> Outside Dimensions <input type="checkbox"/> Over/Under tolerance <input type="checkbox"/> Part Incorrect <input type="checkbox"/> Part Lost/Missing <input type="checkbox"/> Part Moved <input type="checkbox"/> Positioned Wrong <input type="checkbox"/> Power Loss/Surge <input type="checkbox"/> Pressure/Forced <input type="checkbox"/> Set-up <input type="checkbox"/> Temperature/Cure <input type="checkbox"/> Weld <input type="checkbox"/> Wrong Stock Pulled <input type="checkbox"/> Other
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10861^e

Technical drawing of a mechanical part, likely a bracket or support, showing multiple views and dimensions.

Top View (Left): Shows a rectangular base with a central slot. Dimensions include a width of 1.750, a total width of 2.375, and a height of 7.125. A section line B-B is indicated.

Front View (Top Center): Shows the profile of the part. Dimensions include a height of 3.884 and a base width of 4.346. A note indicates a slope of 05 x 45° TYP.

Side View (Bottom Center): Shows the side profile. Dimensions include a height of 3.563 and a radius of R30.474.

Section B-B (Right): A detailed cross-section view showing a fillet with a radius of R2.00 and a base width of 2.06. A note indicates the part is shown in two views: 649.5111 SHOWN and 649.5112 OPPOSITE.

Other Views: A small detail view of a corner is shown in the top right. A section line IS is shown in the bottom right.

DQA: _____ Date: _____



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Skid-tube <input type="checkbox"/>	Crosstube <input type="checkbox"/>	Water Jet <input type="checkbox"/>	Engineering <input type="checkbox"/>															
Machining <input type="checkbox"/>	Small Fab <input type="checkbox"/>	Prod. Eng. Coord. <input type="checkbox"/>	Quality <input type="checkbox"/>															
Thermoforming <input type="checkbox"/>	Finishing <input type="checkbox"/>	Rec/Store/Packaging <input type="checkbox"/>	Other <input type="checkbox"/>															
Large Fab <input type="checkbox"/>	Composite <input type="checkbox"/>	Supplier <input type="checkbox"/>																

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Handling/Pre									
Material									
Operator									
Offset/Setup									
Process									
Supplier									
Training									
Transport									
Unapproved									

FAULT CATEGORY

Landing Gear <input type="checkbox"/> Bending <input type="checkbox"/> Centre Not Concentric <input type="checkbox"/> Cracks <input type="checkbox"/> Crimp/Kink/Ripple/Wave <input type="checkbox"/> Cuffs <input type="checkbox"/> Crushing <input type="checkbox"/> Heat Treat <input type="checkbox"/> Inspection Strip in Tube <input type="checkbox"/> Marks/Chatter <input type="checkbox"/> Turning Sequence <input type="checkbox"/> Wave/Twist in Tube	General <input type="checkbox"/> Bend <input type="checkbox"/> BOM/Route <input type="checkbox"/> Broken/Damage/Defect <input type="checkbox"/> Burrs <input type="checkbox"/> Contamination <input type="checkbox"/> Countersink <input type="checkbox"/> Cut Too Short <input type="checkbox"/> Drawing <input type="checkbox"/> Drill Holes <input type="checkbox"/> Finish <input type="checkbox"/> Fit/Function	<input type="checkbox"/> Folio/Program <input type="checkbox"/> Grain <input type="checkbox"/> Hardware <input type="checkbox"/> Inspection Incomplete/Unqualified <input type="checkbox"/> Instructions Incomplete/Unclear <input type="checkbox"/> Misaligned/off center <input type="checkbox"/> Mislabeled <input type="checkbox"/> Misread <input type="checkbox"/> Off-set <input type="checkbox"/> Out of Calibration <input type="checkbox"/> Out of Sequence	<input type="checkbox"/> Outside Dimensions <input type="checkbox"/> Over/Under tolerance <input type="checkbox"/> Part Incorrect <input type="checkbox"/> Part Lost/Missing <input type="checkbox"/> Part Moved <input type="checkbox"/> Positioned Wrong <input type="checkbox"/> Power Loss/Surge <input type="checkbox"/> Pressure/Forced <input type="checkbox"/> Set-up <input type="checkbox"/> Temperature/Cure <input type="checkbox"/> Weld <input type="checkbox"/> Wrong Stock Pulled <input type="checkbox"/> Other
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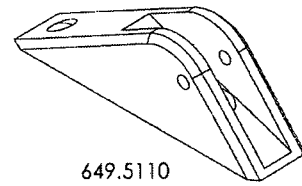
108619

THE INFORMATION CONTAINED ON THIS DRAWING IS THE SOLE PROPERTY OF APICAL INDUSTRIES AND REPRODUCTION IN PART OR WHOLE WITHOUT THE WRITTEN PERMISSION OF APICAL INDUSTRIES IS PROHIBITED.

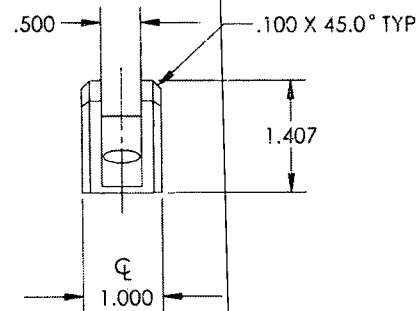
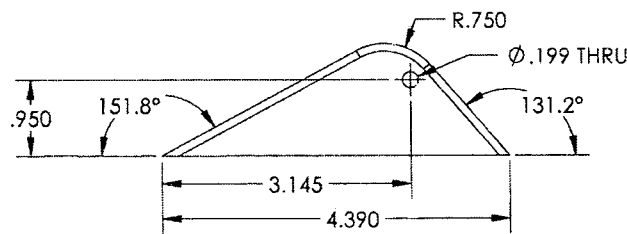
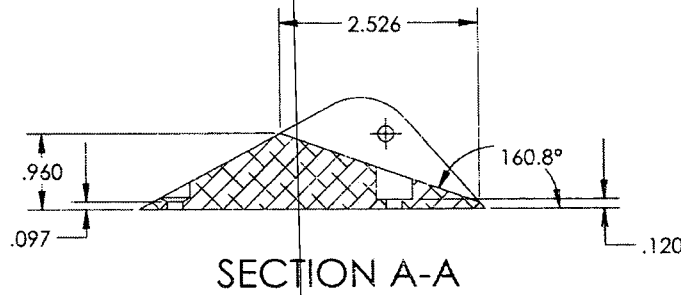
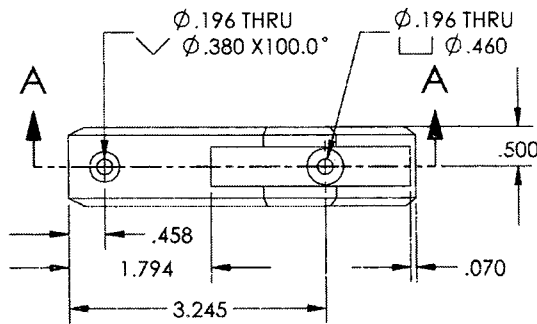
NOTES:

1. MATERIAL: ALUMINUM 7075-7651 PER AMS-QQ-A-250/12.
2. FINISH: ANODIZE PER MIL-STD-A-8625, TYPE III, CLASS 2, COLOR BLACK; PRETREAT PRC-DESOTO PR-148 ADHESION PROMOTER; PRIME IAW MIL-P-23377J TYPE I CLASS N.
3. PART CONTROLLED BY CAD MODEL
FILE NAME: 649.5110 WIPER DEFLECTOR.SLDPRG, LAST MODIFIED 12/07/11.
4. PART CONTROLLED BY CAD MODEL
FILE NAME: 649.5111 WIPER DEFLECTOR.SLDPRG, LAST MODIFIED 04/11/12.
5. PART CONTROLLED BY CAD MODEL
FILE NAME: 649.5112 WIPER DEFLECTOR.SLDPRG, LAST MODIFIED 04/11/12.
6. DEBURR AND BREAK ALL SHARP EDGES.
7. IDENTIFY IAW MPP-120. LASER ETCH P/N REVISION, 12 PT. CENTURY GOTHIC.

REV.	DESCRIPTION	DATE	APPROVED
1	LAST PROTOTYPE REVISION: PPT		FWA
2	INITIAL RELEASE	12/07/11	P. BRAVO
3	INCORPORATED ECN 03525	04/11/12	P. BRAVO



649.5110



UNINCORPORATED ECN(s)

03525

QTY	FIND #	PART #	DESCRIPTION	MATL	SPEC.
3		649.5112	RH WIPER DEFLECTOR	△	△△△
2		649.5111	LH WIPER DEFLECTOR	△	△△△
1		649.5110	WIPER DEFLECTOR	△	△△△
PARTS LIST					
APICAL INDUSTRIES					
2608 TEMPLE HEIGHTS DR.					
OCEANSIDE, CA. 92056-3512 (760) 724-5300					
WIPER DEFLECTORS					
UNITED COMPANIES SPECIFICATIONS					
DIMENSIONS ARE IN INCHES					
TOLERANCES ARE:					
F. PLACE DECIMALS: .001					
2 PLACE DECIMALS: .010					
ANGLES: .5°					
NEXT ASSY (S)			SCALE: NONE		
649.4700			SHEET 1 OF 2		

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework <input type="checkbox"/> Scrap <input type="checkbox"/> Use-as-is <input type="checkbox"/> Suspected Unapproved <input type="checkbox"/>	AGAINST DEPARTMENT/PROCESS <table style="width: 100%;"> <tr> <td style="width: 33%;"> Skid-tube <input type="checkbox"/> Machining <input type="checkbox"/> Thermoforming <input type="checkbox"/> Large Fab <input type="checkbox"/> </td> <td style="width: 33%;"> Crosstube <input type="checkbox"/> Small Fab <input type="checkbox"/> Finishing <input type="checkbox"/> Composite <input type="checkbox"/> </td> <td style="width: 33%;"> Water Jet <input type="checkbox"/> Prod. Eng. Coord. <input type="checkbox"/> Rec/Store/Packaging <input type="checkbox"/> Supplier <input type="checkbox"/> </td> <td style="width: 33%;"> Engineering <input type="checkbox"/> Quality <input type="checkbox"/> Other <input type="checkbox"/> </td> </tr> </table>	Skid-tube <input type="checkbox"/> Machining <input type="checkbox"/> Thermoforming <input type="checkbox"/> Large Fab <input type="checkbox"/>	Crosstube <input type="checkbox"/> Small Fab <input type="checkbox"/> Finishing <input type="checkbox"/> Composite <input type="checkbox"/>	Water Jet <input type="checkbox"/> Prod. Eng. Coord. <input type="checkbox"/> Rec/Store/Packaging <input type="checkbox"/> Supplier <input type="checkbox"/>	Engineering <input type="checkbox"/> Quality <input type="checkbox"/> Other <input type="checkbox"/>
Skid-tube <input type="checkbox"/> Machining <input type="checkbox"/> Thermoforming <input type="checkbox"/> Large Fab <input type="checkbox"/>	Crosstube <input type="checkbox"/> Small Fab <input type="checkbox"/> Finishing <input type="checkbox"/> Composite <input type="checkbox"/>	Water Jet <input type="checkbox"/> Prod. Eng. Coord. <input type="checkbox"/> Rec/Store/Packaging <input type="checkbox"/> Supplier <input type="checkbox"/>	Engineering <input type="checkbox"/> Quality <input type="checkbox"/> Other <input type="checkbox"/>			

Root Cause	Date	Step	Qty	Description of work order update or non-conformance	Initial Chief Eng	Action Description	Sign & Date	Verification	QC Inspector
Design									
Doc/Data									
Equip/Tooling									
Handling/Pre									
Material									
Operator									
Offset/Setup									
Process									
Supplier									
Training									
Transport									
Unapproved									

FAULT CATEGORY

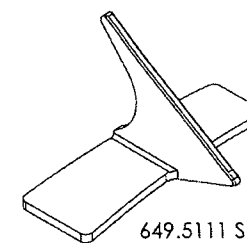
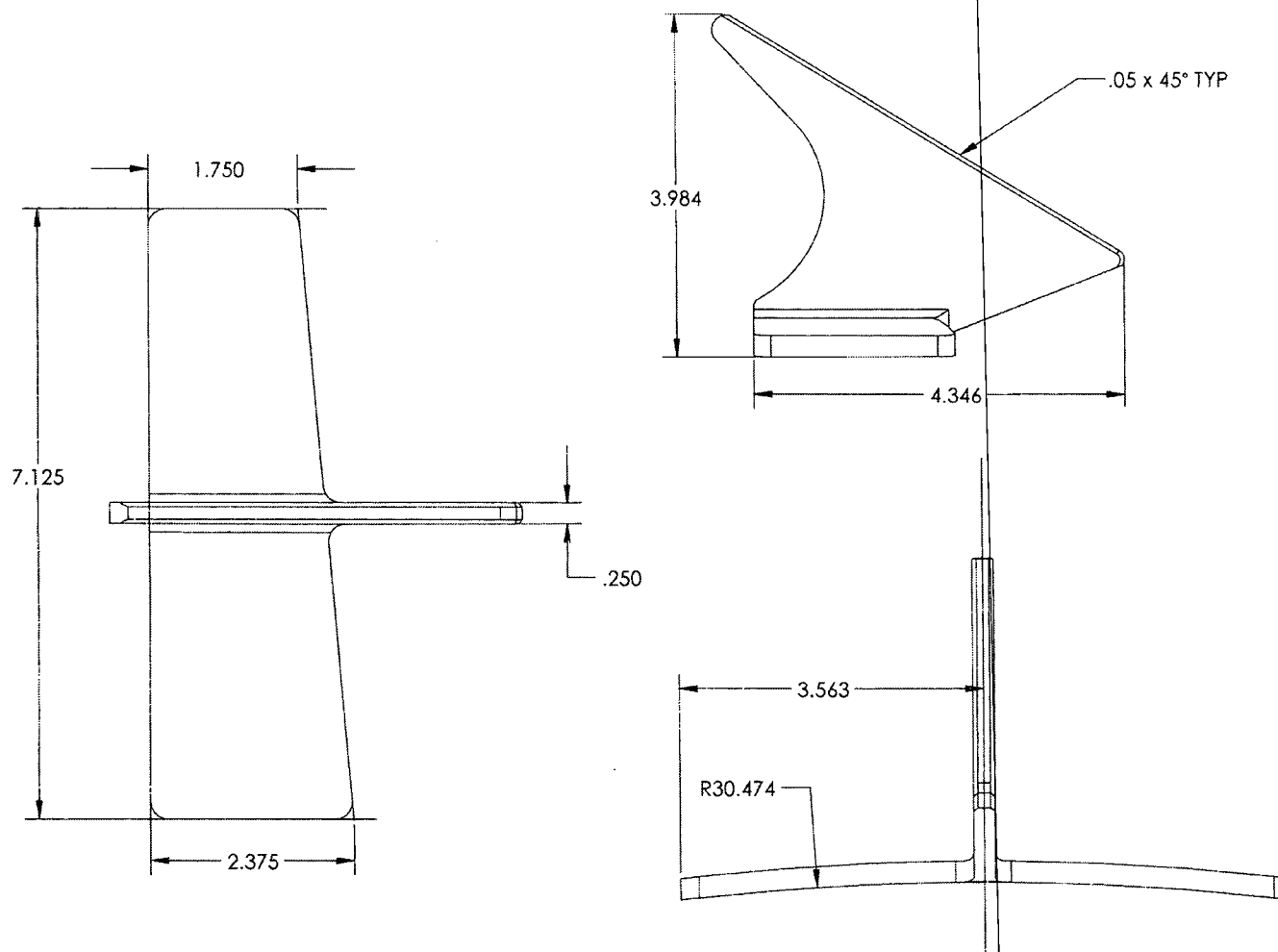
Landing Gear <input type="checkbox"/> Bending <input type="checkbox"/> Centre Not Concentric <input type="checkbox"/> Cracks <input type="checkbox"/> Crimp/Kink/Ripple/Wave <input type="checkbox"/> Cuffs <input type="checkbox"/> Crushing <input type="checkbox"/> Heat Treat <input type="checkbox"/> Inspection Strip in Tube <input type="checkbox"/> Marks/Chatter <input type="checkbox"/> Turning Sequence <input type="checkbox"/> Wave/Twist in Tube	General <input type="checkbox"/> Bend <input type="checkbox"/> BOM/Route <input type="checkbox"/> Broken/Damage/Defect <input type="checkbox"/> Burrs <input type="checkbox"/> Contamination <input type="checkbox"/> Countersink <input type="checkbox"/> Cut Too Short <input type="checkbox"/> Drawing <input type="checkbox"/> Drill Holes <input type="checkbox"/> Finish <input type="checkbox"/> Fit/Function	<input type="checkbox"/> Folio/Program <input type="checkbox"/> Grain <input type="checkbox"/> Hardware <input type="checkbox"/> Inspection Incomplete/Unqualified <input type="checkbox"/> Instructions Incomplete/Unclear <input type="checkbox"/> Misaligned/off center <input type="checkbox"/> Mislabeled <input type="checkbox"/> Misread <input type="checkbox"/> Off-set <input type="checkbox"/> Out of Calibration <input type="checkbox"/> Out of Sequence	<input type="checkbox"/> Outside Dimensions <input type="checkbox"/> Over/Under tolerance <input type="checkbox"/> Part Incorrect <input type="checkbox"/> Part Lost/Missing <input type="checkbox"/> Part Moved <input type="checkbox"/> Positioned Wrong <input type="checkbox"/> Power Loss/Surge <input type="checkbox"/> Pressure/Forced Set-up <input type="checkbox"/> Temperature/Cure <input type="checkbox"/> Weld <input type="checkbox"/> Wrong Stock Pulled <input type="checkbox"/> Other
--	--	---	--

108619

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REV.		DESCRIPTION	DATE	APPROVED

A
B
C
D



649.5111 SHOWN
649.5112 OPPOSITE

ORIGINAL DATE 1/26/11		APICAL INDUSTRIES	
DRAWN BY A. GUAN		2608 TEMPLE HEIGHTS DR. OCEANSIDE, CA. 92056-3512 (760) 724-5300	
CHECKED BY P. BRAY		WIPER DEFLECTORS	
DRAWING APPROVAL 1/26/11		DATE CODE 8 07M26	REV A
CONTRACT NO.		DWG. NO. 649.5100	SHEET 2 OF 2
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES ARE: 2 PLACE DECIMALS ±.03 3 PLACE DECIMALS ±.015 ANGLES ±.5°		SCALE NONE	

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework <input type="checkbox"/> Scrap <input type="checkbox"/> Use-as-is <input type="checkbox"/> Suspected Unapproved <input type="checkbox"/>	AGAINST DEPARTMENT/PROCESS <table style="width: 100%;"> <tr> <td>Skid-tube <input type="checkbox"/></td> <td>Crosstube <input type="checkbox"/></td> <td>Water Jet <input type="checkbox"/></td> <td>Engineering <input type="checkbox"/></td> </tr> <tr> <td>Machining <input type="checkbox"/></td> <td>Small Fab <input type="checkbox"/></td> <td>Prod. Eng. Coord. <input type="checkbox"/></td> <td>Quality <input type="checkbox"/></td> </tr> <tr> <td>Thermoforming <input type="checkbox"/></td> <td>Finishing <input type="checkbox"/></td> <td>Rec/Store/Packaging <input type="checkbox"/></td> <td>Other <input type="checkbox"/></td> </tr> <tr> <td>Large Fab <input type="checkbox"/></td> <td>Composite <input type="checkbox"/></td> <td>Supplier <input type="checkbox"/></td> <td></td> </tr> </table>	Skid-tube <input type="checkbox"/>	Crosstube <input type="checkbox"/>	Water Jet <input type="checkbox"/>	Engineering <input type="checkbox"/>	Machining <input type="checkbox"/>	Small Fab <input type="checkbox"/>	Prod. Eng. Coord. <input type="checkbox"/>	Quality <input type="checkbox"/>	Thermoforming <input type="checkbox"/>	Finishing <input type="checkbox"/>	Rec/Store/Packaging <input type="checkbox"/>	Other <input type="checkbox"/>	Large Fab <input type="checkbox"/>	Composite <input type="checkbox"/>	Supplier <input type="checkbox"/>	
Skid-tube <input type="checkbox"/>	Crosstube <input type="checkbox"/>	Water Jet <input type="checkbox"/>	Engineering <input type="checkbox"/>															
Machining <input type="checkbox"/>	Small Fab <input type="checkbox"/>	Prod. Eng. Coord. <input type="checkbox"/>	Quality <input type="checkbox"/>															
Thermoforming <input type="checkbox"/>	Finishing <input type="checkbox"/>	Rec/Store/Packaging <input type="checkbox"/>	Other <input type="checkbox"/>															
Large Fab <input type="checkbox"/>	Composite <input type="checkbox"/>	Supplier <input type="checkbox"/>																

Root Cause	Date	Step	Qty	Description of work order update or non-conformance	Initial Chief Eng	Action Description	Sign & Date	Verification	QC Inspector
Design									
Doc/Data									
Equip/Tooling									
Handling/Pre									
Material									
Operator									
Offset/Setup									
Process									
Supplier									
Training									
Transport									
Unapproved									

FAULT CATEGORY

Landing Gear <input type="checkbox"/> Bending <input type="checkbox"/> Centre Not Concentric <input type="checkbox"/> Cracks <input type="checkbox"/> Crimp/Kink/Ripple/Wave <input type="checkbox"/> Cuffs <input type="checkbox"/> Crushing <input type="checkbox"/> Heat Treat <input type="checkbox"/> Inspection Strip in Tube <input type="checkbox"/> Marks/Chatter <input type="checkbox"/> Turning Sequence <input type="checkbox"/> Wave/Twist in Tube	General <input type="checkbox"/> Bend <input type="checkbox"/> BOM/Route <input type="checkbox"/> Broken/Damage/Defect <input type="checkbox"/> Burrs <input type="checkbox"/> Contamination <input type="checkbox"/> Countersink <input type="checkbox"/> Cut Too Short <input type="checkbox"/> Drawing <input type="checkbox"/> Drill Holes <input type="checkbox"/> Finish <input type="checkbox"/> Fit/Function	<input type="checkbox"/> Folio/Program <input type="checkbox"/> Grain <input type="checkbox"/> Hardware <input type="checkbox"/> Inspection Incomplete/Unqualified <input type="checkbox"/> Instructions Incomplete/Unclear <input type="checkbox"/> Misaligned/off center <input type="checkbox"/> Mislabeled <input type="checkbox"/> Misread <input type="checkbox"/> Off-set <input type="checkbox"/> Out of Calibration <input type="checkbox"/> Out of Sequence	<input type="checkbox"/> Outside Dimensions <input type="checkbox"/> Over/Under tolerance <input type="checkbox"/> Part Incorrect <input type="checkbox"/> Part Lost/Missing <input type="checkbox"/> Part Moved <input type="checkbox"/> Positioned Wrong <input type="checkbox"/> Power Loss/Surge <input type="checkbox"/> Pressure/Forced <input type="checkbox"/> Set-up <input type="checkbox"/> Temperature/Cure <input type="checkbox"/> Weld <input type="checkbox"/> Wrong Stock Pulled <input type="checkbox"/> Other
--	--	---	--

E.T.M. INDUSTRIES INC.
310 HALL AVENUE
BOX 610
RENFREW, ON K7V 4E7
Canada
Ph: 613-432-6136
Fax: 613-432-8212

Pack List

Number: 116439

Date: 30-Jan-14

To

DART AEROSPACE
1270 ABERDEEN STREET
HAWKESBURY, ON K6A 1K7
Canada

Ship To

DART AEROSPACE
1270 ABERDEEN STREET
HAWKESBURY, ON K6A 1K7
Canada

Ph: 613-632-5200

Fax: 613-632-5246

Ph: 613-632-5200

Fax: 613-632-5246

Terms

Net 30 days

Ship Via

Quantity

Description

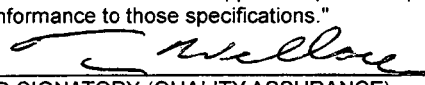
5
each

Part: 649.5111
LH WIPER
**FAI REQ'D INSPECTION REQ'D PRIOR TO FULFILLING BALANCE OF THE ORDER
SO: 16634 PO: PO22172 Line: 7
**LOT #88682
[PHYLLISB - 30/01/2014 9:40:51 AM]

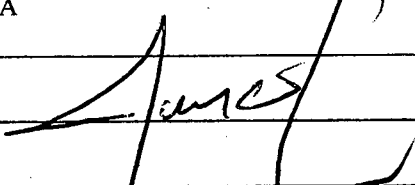

Rev: A

5014-24.

CERTIFICATE OF COMPLIANCE: "I hereby certify that the material described above is in conformance with applicable physical and dimensional specifications; that it was manufactured in accordance with applicable process specifications; and has been inspected to verify conformance to those specifications."


APPROVED SIGNATORY (QUALITY ASSURANCE)

**AS9102 Revision A First Article Inspection
Form 1: Part Number Accountability**

1) Signature indicates that all characteristics are accounted for; meet drawing requirements or are properly documented for disposition.	
2) Also indicate if the FAI is complete per Section 5.4: <input checked="" type="checkbox"/> FAI Complete <input type="checkbox"/> FAI Not Complete	
19. Signature MIKE YANTHA	20. Date 1/22/2014
21. Reviewed by  	22. Date 31 Jan 14
23. Customer Approval	24. Date

1) Signature indicates that all characteristics are accounted for; meet drawing requirements or are properly documented for disposition.

2) Also indicate if the FAI is complete per Section 5.4: ☒ FAI Complete ☐ FAI Not Complete

19. Signature MIKE YANTHA

20. Date 1/22/2014

21. Reviewed by

22. Date

23. Customer Approval

24. Date

ETM Industries Inc

Page 2 of 5

AS9102 Revision A First Article Inspection

Form 2: Product Accountability – Raw Material, Specifications and Special Process(es),
Functional Testing

1. Part Number 649.5111	2. Part Name WIPER DEFLECTOR	3. Serial Number N/A			4. FAI Report Number N/A
5. Material or Process – Name	6. Specification Number	7. Code	8. Special Process Supplier Code	9. Customer Approval Verification (Yes/No/N/A)	10. Certificate of Conformance Number
MATERIAL:	7050-T7651 PER AMS-QQ-A-250/12	N/A	N/A	N/A	CUSTOMER SUPPLIED
PROCESS:	ANODIZE PER MIL-STD-A-8625, TYPE III, CLASS 2, COLOR BLACK	N/A	N/A	N/A	VERDUN CERT #303620-00
PROCESS:	PRIME IAW MIL-P-23377J TYPE I CLASS N	N/A	N/A	N/A	TO BE COMPLETED BY CUSTOMER
PROCESS	IDENTIFY IAW MPP-120 LASER ETCH P/N REVISION 121 PT CENTURY GOTHIC	N/A	N/A	N/A	TO BE COMPLETED BY CUSTOMER
11. Functional Test Procedure Number	12. Acceptance report number, if applicable				
Not Applicable	Not Applicable				
13. Comments					
14. Prepared By			15. Date		
MIKE YANTHA			1/22/2014		

The signature indicates that all characteristics are accounted for; meet drawing requirements or are properly documented for disposition

12. Prepared By

MIKE YANTHA

AS9102 Revision A First Article Inspection
Form 3: Characteristic Accountability, Verification and Compatibility Evaluation

Page 3 of 5

1. Part Number 649.5111				2. Part Name WIPER DEFLECTOR		3. Serial Number N/A		4. FAI Report N/A	
Characteristic Accountability				Inspection / Test Results					
5. Char. No.	6. Reference Location	7. Characteristic Designator	8. Requirement	9. Results	10. Designated Tooling	11. Non Conformance Number	14. Reference Documents		
1	SHEET 2	N/A	7.125	7.1212	CMM	N/A	N/A		
2	SHEET 2	N/A	1.750	1.7487	CMM	N/A	N/A		
3	SHEET 2	N/A	.250	.249	CALIPERS	N/A	N/A		
4	SHEET 2	N/A	R.200 4 PLACES	.2031	RADIUS GAUGE	N/A	N/A		
5	SHEET 2	N/A	2.375	2.3748	CMM	N/A	N/A		
6	SHEET 2	N/A	R.100	.0937	RADIUS GAUGE	N/A	N/A		
7	SHEET 2	N/A	R1.205	1.2018	CMM	N/A	N/A		
8	SHEET 2	N/A	3.984	3.976	HEIGHT GAUGE AND INDICATOR	N/A	N/A		
9	SHEET 2	N/A	R.174	.1718	RADIUS GAUGE	N/A	N/A		
10	SHEET 2	N/A	.05x45°	.0493	OPTICAL COMPARATOR	N/A	N/A		
11	SHEET 2	N/A	R.128	.125	RADIUS GAUGE	N/A	N/A		
12	SHEET 2	N/A	R30.474	3.4718	CMM	N/A	N/A		
13	SHEET 2	N/A	3.563	3.561	HEIGHT GAUGE AND INDICATOR	N/A	N/A		

The signature indicates that all characteristics are accounted for; meet drawing requirements or are properly documented for disposition.

12. Prepared By **MIKE YANTHA**13. Date **1/22/2014**

AS9102 Revision A First Article Inspection
Form 3: Characteristic Accountability, Verification and Compatibility Evaluation

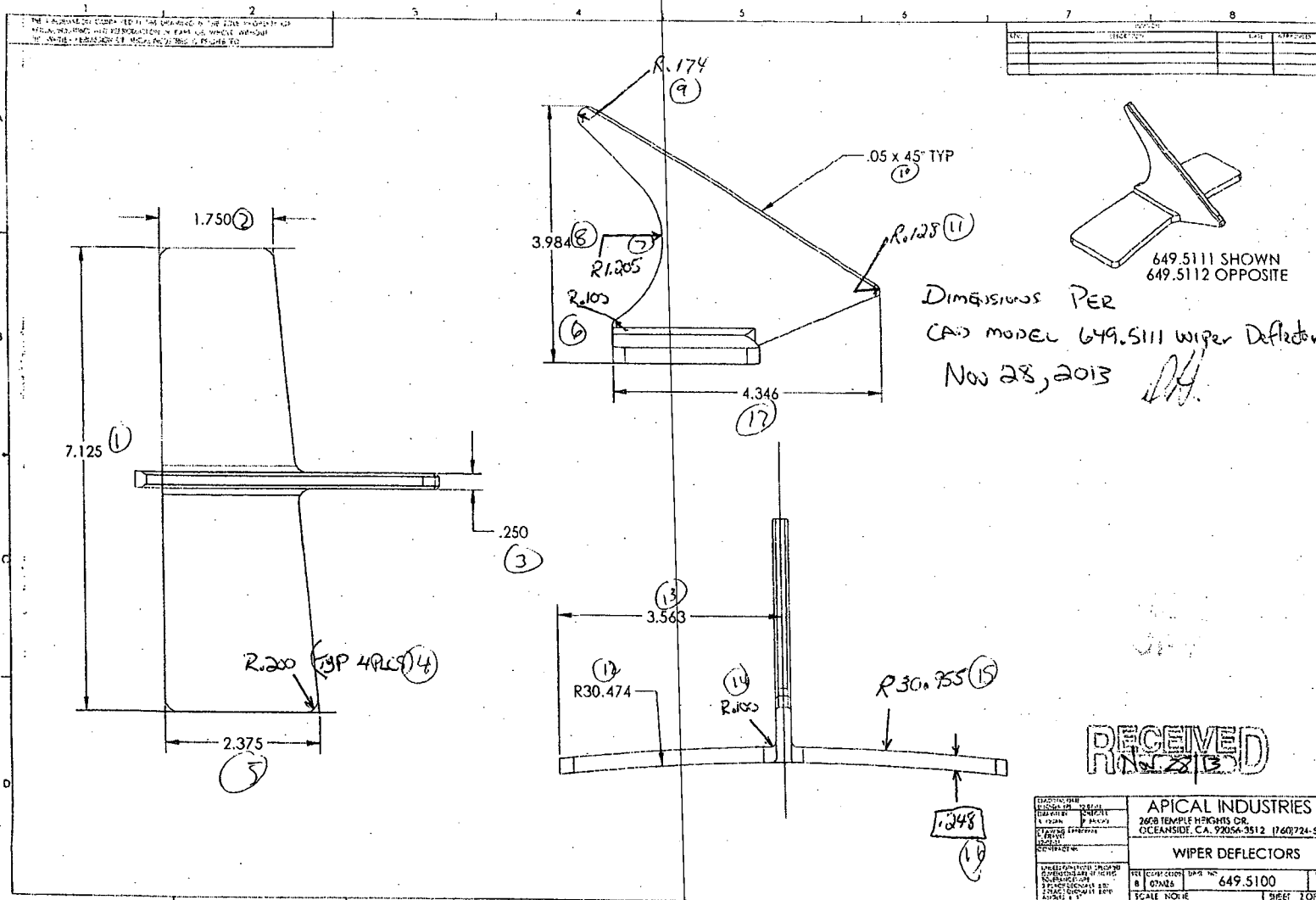
Page 4 of 5

1. Part Number 649.5111				2. Part Name WIPER DEFLECTOR		3. Serial Number N/A		4. FAI Report N/A	
Characteristic Accountability				Inspection / Test Results					
5. Char. No.	6. Reference Location	7. Characteristic Designator	8. Requirement	9. Results	10. Designated Tooling	11. Non Conformance Number	14. Reference Documents		
14	SHEET 2	N/A	R.100	.0937	RADIUS GAUGE	N/A	N/A		
15	SHEET 2	N/A	R30.955	30.9587	CMM	N/A	N/A		
16	SHEET 2	N/A	.248	.249	CALIPERS	N/A	N/A		
17	SHEET 2	N/A	4.346	4.343	CALIPERS	N/A	N/A		
18	SHEET 1	N/A	PART CONTROLLED BY CAD MODEL. FILE NAME: 6495110 WIPER DEFLECTOR.SLDPR T, LAST MODIFIED 12/07/11	ACCEPT	VERIFY	N/A	N/A		
19	SHEET 1	N/A	ART CONTROLLED BY CAD MODEL. FILE NAME: 649.5111 WIPER DEFLECTOR.SLDPR T, LAST MODIFIED 04/11/12	ACCEPT	VERIFY	N/A	N/A		
20	SHEET 1	N/A	PART CONTROLLED BY CAD MODEL, FILE NAME: 649.5112 WIPER DEFLECTOR.SLDPR T, LAST MODIFIED 05/24/12	ACCEPT	VERIFY	N/A	N/A		
21	SHEET 1	N/A	DEBURR AND BREAK ALL SHARP EDGES	ACCEPT	VERIFY	N/A	N/A		

The signature indicates that all characteristics are accounted for; meet drawing requirements or are properly documented for disposition.

12. Prepared By **MIKE YANTHA**13. Date **1/22/2014**

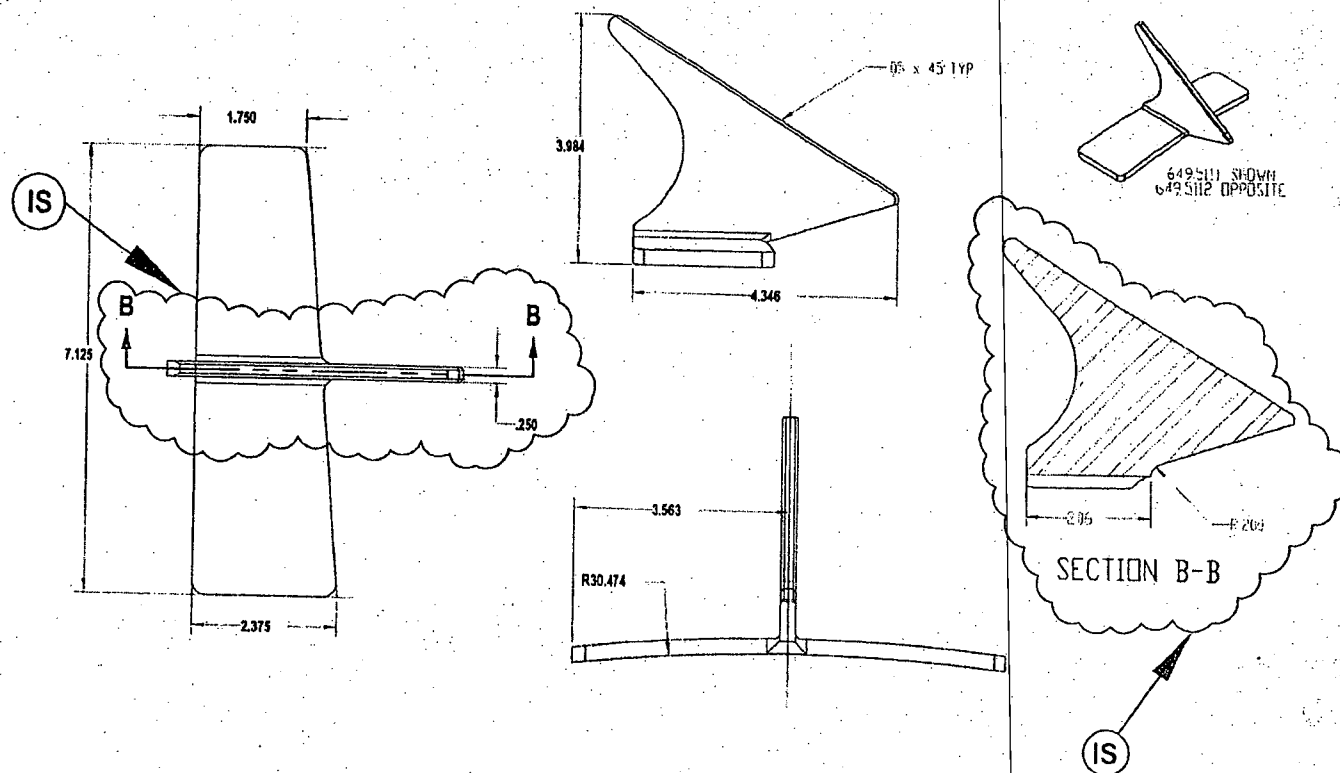

David Culleton
 Inspector: Verduin Anodizing Inc.



RECEIVED
NOV 28 2013

DRAWING FILE DESIGNER DATE CHECKED APPROVED		APICAL INDUSTRIES 2608 TEMPLE HEIGHTS CR. OCEANSIDE, CA 92054-3512 (760) 724-5300	
PART NAME QUANTITY SCALE		WIPER DEFLECTORS 649.5100 SCALE: NONE	

SHEET 2, ZONE B5 IS:



RECEIVED
AUG 23 1973

APICAL
INDUSTRIES, INC.

ENGINEERING CHANGE NOTICE NO. 03525

SHEET 1 OF 2

DWG NO. 649.5100

REV: A

PREPARED
BY A. QUAN

DATE: 05/24/12

EFFECT ON DWG
☐ INC. ☒ UNINC.

DWG TITLE: WIPER DEFLECTORS

APPROVED BY: ENGR

MFG

QC

EFF: NEXT ORDER

TRANSACTION CODES (TC):
A-ADD C-CREATE
R-REVISE D-DELETE

REASON: REVISED PART DIMENSIONS, ADDED RADIUS

SHEET 1, ZONE A1 IS:

NOTES

1 MATERIAL ALUMINUM 7075-7651 PER AWS Q0-A-250.12

2 FINISH ANODIZE PLR MIL STD-A-8625, TYPE III, CLASS 2, COLOR BLACK.
PRETREAT PROC DESOTO PR-142 ADHESION PROMOTER,
PRIME IAW MIL-P-23377J TYPE I CLASS II

(18) 3 PART CONTROLLED BY CAD MODEL
FILE NAME: 649.5110 WIPER DEFLECTOR SLD.PRT, LAST MODIFIED 12/07/11

(19) 4 PART CONTROLLED BY CAD MODEL
FILE NAME: 649.5111 WIPER DEFLECTOR SLD.PRT, LAST MODIFIED 04/11/12

(20) 5 PART CONTROLLED BY CAD MODEL
FILE NAME: 649.5112 WIPER DEFLECTOR SLD.PRT, LAST MODIFIED 05/24/12

(21) 6 DEBUR AND BREAK ALL SHARP EDGES.

7 IDENTIFY IAW MPP-120. LASER ETCH P/N REVISION, 12 PT CENTURY GOTHIC

IS

COPIED

RECEIVED
MAY 23 2012

DOCUMENTS EFFECTED:

☐ MDL ☐ INSTALL INSTRU ☐ ICA ☐ BOM

CHANGE CATEGORY
☐ MAJOR ☒ MINOR

DER REVIEW REQUIRED
☐ YES ☒ NO



Dart Aerospace Ltd.
1270 Aberdeen Street
Hawkesbury, ON K6A 1K7
Tel: 613 632 9577
Fax: 613 632 1053

PURCHASE ORDER

Purchase Order ID **PO22172**

Purchase Order Date 11/25/2013

PO Print Date 1/13/2014

Page Number 2 of 3

Order From :

E.T.M. INDUSTRIES INC.
310 HALL AVENUE
BOX 610

VC-ETM001

Ship To : DART AEROSPACE LTD

1270 ABERDEEN
HAWKESBURY, ON K6A 1K7
CANADA

RENFREW, ONTARIO K7V 4E7
CANADA

Contact Name

Vendor Phone 613-432-6136

Ship To Contact

Ship To Phone

Ship Via: FedEx Priority First collect

Ship Acct:

Buyer

Michael Gregoire

Customer POID

Customer Tax # 10127-2607

Terms Net 30

Currency CAD

FOB FCA - (Free Carrier)

Line Total: \$750

7 649.5111P LH Wiper Deflector 1/17/2014
Yes
2/7/2014

✓ 5.00
Each

\$150.00 \$750

NOTE

Manufacture as per drawing 649.5100 Rev.A
B108619

First Article Inspection required prior to fulfilling balance of the order.

Delivery pushed back due to mechanical failure from 1/17 to 2/4

Line Total: \$750

8 649.5111P LH Wiper Deflector 1/17/2014
Yes
2/7/2014

10.00
Each

\$169.41 \$1,694

NOTE

Manufacture as per drawing 649.5100 Rev.A
B108618

First Article Inspection required prior to fulfilling balance of the order.

Delivery pushed back due to mechanical failure from 1/17 to 2/4

Line Total: \$1,694

PO Instructions: ***NOTE***

7075T6 BAR 6``x6`` material supplied

Note:

1/13/2014